(IWM – 6) *IRRIGATION Water Requirement Guide (calculated at 50% Maximum Allowable Depletion (MAD) in the upper root zone)

Soil Textural Class		AWC (in./ft.)	0 – 12 inch depth (Shallow Roots)			0 – 24 inch depth (Medium Roots)			0 – 36 inch depth (Deep Roots)		
			% Leaching Fraction (LF)								
			10	20	30	10	20	30	10	20	
			Inches of Water needed at the time of Irrigation								
Coarse Texture	Sands	0.5	0.17	0.19	0.2	0.34	0.38	0.41	0.52	0.56	0.61
	Loamy Sands	1.0	0.34	0.38	0.41	0.69	0.75	0.81	1.03	1.13	1.22
	Fine Sands V. F. Sands Loamy F. Sands Loamy V. F. Sands	1.25	0.43	0.47	0.51	0.86	0.94	1.02	1.29	1.41	1.52
Mod. Coarse Texture	Sandy Loam Fine Sandy Loam	1.5	0.52	0.56	0.61	1.03	1.13	1.22	1.55	1.69	1.83
Medium Texture	V. F. Sandy Loam Loam Silt Loam Silt	2.0	0.69	0.75	0.81	1.38	1.5	1.63	2.06	2.25	2.44
Mod. Fine Texture	Sandy Clay Loam Silty Clay Loam Clay Loam	2.2	0.76	0.83	0.90	1.51	1.65	1.79	2.27	2.48	2.68
Fine Texture	Sandy Clay Silty Clay Clay	2.0	0.69	0.75	0.81	1.38	1.5	1.63	2.06	2.25	2.44

Example Calculation of Irrigation Water Requirement:

- Soil: Silt Loam
- AWC = 2.0 in./ft.
- Root Zone: 0 – 24”
- LF = 10%
- MAD = 50% at 0 – 6” depth

Root Zone Depth:	% of Total Soil Moisture Used:	Inches Used:
0 – 6”	40	0.5
6 – 12”	30	0.375
12 – 18”	20	0.25
18 – 24”	10	0.125

Total Soil Moisture depleted at irrigation = 1.25 in.

1.25” x 0.10 = 0.125” (LF)

Total Irrigation needed:

1.25” + 0.125” = **1.38”**

*Calculated values were based on the following Crop Root soil moisture extraction patterns (i.e., % of total soil moisture extracted at given depths) for the following root zones: rudy garcia 2008

1 ft. depth	2 ft. depth	3 ft. depth
40% at 0 - 3”	40% at 0 - 6”	40% at 0 - 9”
30% at 3 - 6”	30% at 6 - 12”	30% at 9 - 18”
20% at 6 - 9”	20% at 12 - 18”	20% at 18 - 27”
10% at 9 - 12”	10% at 18 - 24”	10% at 27 - 36”

NOTE: Site-specific data is needed to estimate actual irrigation water requirements; therefore, this TABLE should be used as a GUIDE.

AWC = Available Water-Holding Capacity